



Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A fluid injector comprising:
a base including a chamber and a surface;
a first through hole, communicating with the chamber, disposed in the base;
a bubble generator disposed on the surface near the first through hole outside the chamber of the base;
a passivation layer disposed on the surface; ~~and~~
a metal layer, defining a second through hole, disposed on the passivation layer outside the chamber; and
a plurality of fins disposed on a surface of the metal layer away from the base to assist the metal layer in heat dissipation, wherein the second through hole communicates with the first through hole.
2. (original) The fluid injector as claimed in claim 1, wherein the bubble generator comprises:
a first heater, disposed on the surface outside the chamber, for generating a first bubble in the chamber; and
a second heater, disposed on the surface outside the chamber, for generating a second bubble in the chamber to inject fluid in the chamber, wherein the first heater and the second heater are located at opposite sides of the first through hole.
3. (original) The fluid injector as claimed in claim 1, wherein the bubble generator includes a heater.
4. (cancelled)
5. (original) The fluid injector as claimed in claim 1, wherein the diameter of one

end, communicating with the first through hole, of the second hole is substantially larger than that of the other end of the second through hole.

6. (original) The fluid injector as claimed in claim 1, further comprising: an adhesion layer, disposed between the base and the metal layer, for assisting in adhesion between the metal layer and the base.

7. (original) The fluid injector as claimed in claim 6, wherein the adhesion layer is Al.

8. (original) The fluid injector as claimed in claim 1, wherein the metal layer is Ni-Co alloy.

9. (original) The fluid injector as claimed in claim 1, wherein the metal layer is Au.

10. (original) The fluid injector as claimed in claim 1, wherein the metal layer is Au-Co alloy.

11. (original) The fluid injector as claimed in claim 1, wherein the base comprises: a silicon substrate; and a structural layer disposed on the silicon substrate to form the chamber therebetween.

12. (original) The fluid injector as claimed in claim 11, wherein the structural layer defines a third through hole, and the passivation layer defines a fourth through hole corresponding to the third through hole, and the metal layer is directly connected with the silicon substrate via the fourth through hole.

13. (original) The fluid injector as claimed in claim 11, wherein the structural layer defines a third through hole, and the passivation layer defines a fourth through hole corresponding to the third through hole, and the base further comprises:

an adhesion layer, disposed on the structural layer and located between the passivation layer and the structural layer, abutting the silicon substrate via the third through hole and abutting the metal layer via the fourth hole to assist in adhesion between the metal layer and the silicon substrate.

14. (original) The fluid injector as claimed in claim 13, wherein the adhesion layer is Al.

15. (withdrawn) A method, for manufacturing a fluid injector, comprising:
providing a wafer; forming a structural layer on the wafer and defining a chamber between the wafer and the structural layer;
disposing a bubble generator on the structural layer, wherein the bubble generator is located outside the chamber;
forming a passivation layer on the structural layer;
forming a metal layer on the passivation layer; and
forming a first through hole on the structural layer, wherein the first through hole communicates with the chamber.

16. (withdrawn) The method as claimed in claim 15, wherein the bubble generator is covered by the metal layer.

17. (withdrawn) The method as claimed in claim 15, wherein the metal layer is coated on the passivation layer by electroforming.

18. (withdrawn) The method as claimed in claim 15, wherein the metal layer is coated on the passivation layer by electroless plating.

19. (withdrawn) The method as claimed in claim 15, wherein the metal layer is coated on the passivation layer by physical vapor deposition.

20. (withdrawn) The method as claimed in claim 15, wherein the metal layer is

coated on the passivation layer by chemical vapor deposition.

21. (withdrawn) The method as claimed in claim 15, wherein the metal layer includes a plurality of fins on a surface away from the base to assist the metal layer in heat dissipation.

22. (withdrawn) The method as claimed in claim 15, further comprising: forming a second through hole in the metal layer, wherein the second through hole communicates with the first through hole.

23. (withdrawn) The method as claimed in claim 22, wherein the diameter of one end, communicating with the first through hole, of the second hole is substantially larger than that of the other end of the second through hole.

24. (withdrawn) The method as claimed in claim 15, wherein an adhesive layer is formed on the structural layer before the metal layer is formed on the structural layer so as to assist adhesion between the metal layer and the wafer.

25. (withdrawn) The method as claimed in claim 15, wherein the structural layer defines a third through hole, and the passivation layer defines a fourth through hole corresponding to the third through hole, and the metal layer is directly connected with the wafer via the fourth through hole.

26. (withdrawn) The method as claimed in claim 15, wherein a third through hole is formed in the structural layer after the structural layer is formed on the wafer, and an adhesion layer is formed on the structural layer to be connected with the wafer via the third through hole.

27. (withdrawn) The method as claimed in claim 15, wherein the metal layer is Ni--Co alloy.

28. (withdrawn) The method as claimed in claim 15, wherein the metal layer is Au.

29. (withdrawn) The method as claimed in claim 15, wherein the metal layer is Au--Co alloy.

30. (withdrawn) The method as claimed in claim 15, wherein the structural layer is silicon nitride.

31. (currently amended) A fluid injector comprising:
a base including a chamber and a surface;
a first through hole, communicating with the chamber, disposed in the base;
a bubble generator disposed on the surface near the first through hole outside the chamber of the base;
a passivation layer disposed on the surface; ~~and~~
a metal layer disposed on the passivation layer outside the chamber to dissipate heat; and
a plurality of fins disposed on a surface of the metal layer away from the base to assist the metal layer in heat dissipation.

32. (cancelled)

33. (original) The fluid injector as claimed in claim 31, further comprising: an adhesion layer, disposed between the base and the metal layer, to assist in adhesion between the metal layer and the base.

34. (original) The fluid injector as claimed in claim 33, wherein the adhesion layer is conductive material.

35. (original) The fluid injector as claimed in claim 31, wherein the metal layer is Ni--Co alloy.

36. (original) The fluid injector as claimed in claim 31, wherein the metal layer is Au.

37. (original) The fluid injector as claimed in claim 31, wherein the metal layer is Au--Co alloy.

38. (original) The fluid injector as claimed in claim 31, wherein the base comprises:

a silicon substrate; and a structural layer disposed on the silicon substrate to form the chamber therebetween.

39. (original) The fluid injector as claimed in claim 38, wherein the structural layer defines a second through hole, and the passivation layer defines a third through hole corresponding to the second through hole, and the metal layer is directly connected with the silicon substrate via the third through hole.

40. (original) The fluid injector as claimed in claim 38, wherein the structural layer defines a second through hole, and the passivation layer defines a third through hole corresponding to the second through hole, and the base further comprises: an adhesion layer, disposed on the structural layer and located between the passivation layer and the structural layer, abutting the silicon substrate via the second through hole and abutting the metal layer via the third hole to assist in adhesion between the metal layer and the silicon substrate.